

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions of claims in the application.

1. (Previously presented): A photocatalyst sheet characterized in that it comprises:
a substrate made of glass fiber;
a first fluorocarbon resin layer made of PTFE coated on said substrate;
a second fluorocarbon resin layer made of either one of PTFE, FEP, or PFA coated on said first fluorocarbon resin layer; and
a third fluorocarbon resin layer made of FEP containing photocatalysts consisting at least of titanium oxide (TiO_2 , TiO_3) coated on said second fluorocarbon resin layer;
of which said photocatalysts have the part exposed on said third fluorocarbon resin layer;
the ratio of said photocatalysts in said third fluorocarbon resin layer is 10 – 60 weight %;
and
the surface of the fluorocarbon resin layer containing said photocatalysts of said photocatalyst sheet is water repellent upon ultraviolet light irradiation, and when said photocatalyst sheets are thermally welded to each other, and if said welded part is peeled off at the rate of 20 mm/min, then whole of said fluorocarbon resin layer is completely peeled off from said substrate.
2. (Previously presented): A photocatalyst sheet as set forth in claim 1, characterized in that the surface state of said substrate made of glass fiber is either smooth, rough, or mesh-like.
3. (Previously presented): A photocatalyst sheet as set forth in claim 1, characterized in that photocatalysts are contained in said second fluorocarbon resin layer.
4. (Previously presented): A photocatalyst sheet as set forth in claim 1, characterized in that the photooxidation ability of the surface of said fluorocarbon resin layer containing photocatalysts of said photocatalyst sheet is such that, when oleic glyceride is coated on said surface of fluorocarbon resin layer, and an ultraviolet light is irradiated onto said surface by 1mW/cm^2 , the rate of decomposition of said oleic glyceride is 0.1mg/cm^2 day or more.

5. (Previously presented): A photocatalyst sheet as set forth in claim 1, characterized in that the photoreduction ability of the surface of said fluorocarbon resin layer containing photocatalysts of said photocatalyst sheet is such that, when said photocatalyst sheet is soaked in the 0.1N (normal) silver nitrate aqueous solution, and ultraviolet light is irradiated for one minute onto the surface of said fluorocarbon resin layer containing photocatalysts by $1\text{mW}/\text{cm}^2$, the color difference change is $\Delta E^* \geq 1$.

6. (Previously presented): A photocatalyst sheet as set forth in claim 1, characterized in that the contact angle of the surface of said fluorocarbon resin layer containing photocatalysts is about 90 degrees or more.

7. (Previously presented): A photocatalyst sheet as set forth in claim 1, characterized in that the thickness of said fluorocarbon resin layer containing photocatalysts is $1\ \mu\text{m}$ or more.

8. (Previously presented): A photocatalyst sheet characterized in that it comprises:
a substrate;
a first fluorocarbon resin layer coated on said substrate;
a second fluorocarbon resin layer coated on said first fluorocarbon resin layer; and
a third fluorocarbon resin layer containing photocatalysts consisting at least of titanium oxide (TiO_2 , TiO_3) coated on said second fluorocarbon resin layer;

of which said third fluorocarbon resin layer has lower melting point than said first fluorocarbon resin layer;

said photocatalysts have the part exposed on said third fluorocarbon resin layer;

the ratio of said photocatalysts in said third fluorocarbon resin layer is 10 – 60 weight %;
and

said photocatalyst sheet can be thermally welded to said third fluorocarbon resin layer, and when said photocatalyst sheets are thermally welded to each other, and if said welded part is peeled

off at the rate of 20 mm/min, then whole of said fluorocarbon resin layer is completely peeled off from said substrate.

9. (Previously presented): A photocatalyst sheet characterized in that it comprises:
a substrate;
a first fluorocarbon resin layer coated on said substrate;
a second fluorocarbon resin layer coated on said first fluorocarbon resin layer; and
a third fluorocarbon resin layer containing photocatalysts consisting at least of titanium oxide (TiO_2 , TiO_3) coated on said second fluorocarbon resin layer;
of which said third fluorocarbon resin layer has lower melting point than said first fluorocarbon resin layer;
said photocatalysts have the part exposed on said third fluorocarbon resin layer;
the ratio of said photocatalysts in said third fluorocarbon resin layer is 10 – 60 weight %;
the surface of the fluorocarbon resin layer containing said photocatalysts of said photocatalyst sheet is water repellent upon ultraviolet light irradiation, and
said photocatalyst sheet can be thermally welded to said third fluorocarbon resin layer, and when said photocatalyst sheets are thermally welded to each other, and if said welded part is peeled off at the rate of 20 mm/min, then whole of said fluorocarbon resin layer is completely peeled off from said substrate.

10. (Previously presented): A photocatalyst sheet as set forth in claim 8 or 9, characterized in that said substrate is made of glass fiber, its surface state is either smooth, rough, or mesh-like, said first fluorocarbon resin layer is made of PTFE, said second fluorocarbon resin layer is either one of PTFE, FEP, or PFA resin layer, and said third fluorocarbon resin layer is made of FEP.

11. (Previously presented): A photocatalyst sheet as set forth in claim 8 or 9, characterized in that the melting point of said second fluorocarbon resin layer is as high as, or higher than, that of said third fluorocarbon resin layer.

12. (Previously presented): A photocatalyst sheet as set forth in claim 11, characterized in that said second and said third fluorocarbon resin layers are made of identical fluorocarbon resin.

13. (Previously presented): A photocatalyst sheet as set forth in claim 8 or 9, characterized in that the melting point of said first fluorocarbon resin layer is as high as, or higher than, that of said second fluorocarbon resin layer.

14. (Previously presented): A photocatalyst sheet as set forth in claim 13, characterized in that said first and said second fluorocarbon resin layers are made of identical fluorocarbon resin.

15. (Canceled)

16. (Canceled)

17. (Canceled)

18. (Canceled)

19. (Previously presented): A photocatalyst sheet comprising a substrate, a fluorocarbon resin layer coated on said substrate, and at least an uppermost layer coated with a fluorocarbon resin layer containing photocatalysts, characterized in that a surface of said fluorocarbon resin layer containing photocatalysts is water repellent upon ultraviolet light irradiation, and when said photocatalyst sheets are thermally welded to each other, and if said welded part is peeled off at the rate of 20 mm/min, then whole of said fluorocarbon resin layer is completely peeled off from said substrate.

20. (Previously presented): A photocatalyst sheet as set forth in claim 8 or 9, characterized in that photocatalysts are contained in said second fluorocarbon resin layer.

21. (Currently amended): A photocatalyst sheet as set forth in any one of claims 8, 9, and 19, characterized in that the photooxidation ability of the surface of said fluorocarbon resin layer containing the photocatalyst is such that, when oleic glyceride is coated on said surface of

fluorocarbon resin layer, and an ultraviolet light is irradiated onto said surface by 1mW/cm^2 , the rate of decomposition of said oleic glyceride is 0.1mg/cm^2 day or more.

22. (Currently amended): A photocatalyst sheet as set forth in any one of claims 8, 9, and 19, characterized in that the photoreduction ability of the surface of said fluorocarbon resin layer containing the photocatalyst is such that, when said photocatalyst sheet is soaked in the 0.1N (normal) silver nitrate aqueous solution, and an ultraviolet light is irradiated for one minute onto the surface of said fluorocarbon resin layer containing the photocatalyst by 1mW/cm^2 , the color difference change is $\Delta E^* \geq 1$.

23. (Previously presented): A photocatalyst sheet as set forth in any one of claims 8, 9, and 19, characterized in that the contact angle of the surface of said fluorocarbon resin layer containing the photocatalyst is about 90 degrees or more.

24. (Previously presented): A photocatalyst sheet as set forth in any one of claim 8 or 9, characterized in that the thickness of said fluorocarbon resin layer containing the photocatalyst is $1\text{ }\mu\text{m}$ or more.

25. (Previously presented): A manufacturing method of a photocatalyst sheet, which comprises:

- a substrate made of glass fiber;
- a first fluorocarbon resin layer made of PTFE coated on said substrate;
- a second fluorocarbon resin layer made of either one of PTFE, FEP, or PFA coated on said first fluorocarbon resin layer; and

- a third fluorocarbon resin layer made of FEP containing photocatalysts consisting at least of titanium oxide (TiO_2 , TiO_3) coated on said second fluorocarbon resin layer;

- of which said photocatalysts have the part exposed on said third fluorocarbon resin layer, the ratio of said photocatalysts in said third fluorocarbon resin layer is 10 – 60 weight %, and the surface of said fluorocarbon resin layer containing said photocatalysts of said photocatalyst sheet

is water repellent upon ultraviolet light irradiation, and when said photocatalyst sheets are thermally welded to each other, and if said welded part is peeled off at the rate of 20 mm/min, then whole of said fluorocarbon resin layer is completely peeled off from said substrate, and

said method being characterized to comprise

a process of coating the first fluorocarbon resin layer on the substrate;

a process of coating the second fluorocarbon resin layer on said first fluorocarbon resin layer; and

a process of coating the third fluorocarbon resin layer containing photocatalysts on said second fluorocarbon resin layer.

26. (Previously presented): A manufacturing method of a photocatalyst sheet, which comprises:

a substrate made of glass fiber;

a first fluorocarbon resin layer made of PTFE coated on said substrate;

a second fluorocarbon resin layer made of either one of PTFE, FEP, or PFA containing photocatalysts coated on said first fluorocarbon resin layer; and

a third fluorocarbon resin layer made of FEP containing photocatalysts consisting at least of titanium oxide (TiO_2 , TiO_3) coated on said second fluorocarbon resin layer;

of which said photocatalysts have the part exposed on said third fluorocarbon resin layer, the ratio of said photocatalysts in said third fluorocarbon resin layer is 10 – 60 weight %, and the surface of said fluorocarbon resin layer containing said photocatalysts of said photocatalyst sheet is water repellent upon ultraviolet light irradiation, and when said photocatalyst sheets are thermally welded to each other, and if said welded part is peeled off at the rate of 20 mm/min, then whole of said fluorocarbon resin layer is completely peeled off from said substrate, and

said method being characterized to comprise

a process of coating the first fluorocarbon resin layer on the substrate;

a process of coating the second fluorocarbon resin layer containing photocatalysts on said first fluorocarbon resin layer; and

a process of coating the third fluorocarbon resin layer containing photocatalysts on said second fluorocarbon resin layer.

27. (Canceled)

28. (Canceled)

29. (Previously presented): A manufacturing method of a photocatalyst sheet as set forth in claim 25 or 26, characterized in that coating processes are continuous for said first fluorocarbon resin layer, said second fluorocarbon resin layer, either containing or not containing the photocatalyst, and said third fluorocarbon resin layer containing the photocatalyst.